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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,337	12/31/2003	Klaus Hartig	44046.203.277.1	4701

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EXAMINER	
MOORE, KARLA A	

ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/750,337	HARTIG, KLAUS	
	Examiner	Art Unit	
	Karla Moore	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) *22-38 and 47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,12-21,39-42,45 and 46* is/are rejected.

7)☐ Claim(s) *10-11 and 43-44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *304,604,804,1104*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-21 and 39-46, drawn to a method of processing a sheet like substrate, classified in class 216, subclass 37.

   II. Claims 22-38 and 47, drawn to a coater, classified in class 118, subclass 719.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process, such as one wherein the ion beam removes material provided on the bottom surface by means other than the downward coating apparatus and/or the upward coating apparatus could be used to deposit a non photocatalytic coating on the bottom surface of the substrate.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Ms. Kara Faibairn on 28 April 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-21 and 39-46. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-38 and 47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-9, 12-21, 39-42 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/37377 to Krisko et al. on view of U.S. Patent No. 5,958,134 to Yasar et al.

7. Krisko et al. disclose the invention substantially as claimed and comprising: a method of processing a sheet-like substrate (Figure 5, 10), the method comprising: a) providing a coater adapted for supplying coating onto the substrate, the coater comprising a substrate support (310) defining a path of substrate travel extending through the coater, a downward coating apparatus (326) positioned above the path of substrate travel; b) conveying the substrate along the path of substrate travel; c) and operating the downward coating apparatus to coat a top major surface of the substrate. See page 18, row 12 through page 20, row 12.

8. However, while Krisko et al. do teach processing the bottom surface of the substrate and that material intended for the top surface may inadvertently be deposited on the bottom surface Krisko et al. fail to teach providing an ion gun positioned beneath the path of substrate travel, wherein the ion gun is at a location further along the path of the substrate travel than the downward coating apparatus and operating the gun to emit an ion beam toward a bottom major surface of the substrate, said operation of the ion gun being performed to remove from the bottom major surface of the substrate any oversprayed coating that was inadvertently deposited upon marginal portions of the bottom major surface of the substrate during said operation of the downward coating apparatus.

9. Yasar et al. teach providing a coating station and then subsequently an ion gun etching station capable of etching various surfaces of a substrate for the purpose of removing and shaping coated material to produce a desired geometry and other physical characteristics (column 6, rows 42-46).

10. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided an ion gun etching station in Krisko et al. in order to remove and shape the coated material to produce a desired geometry and other physical characteristics as taught by Yasar et al.

11. With respect to claim 2, the substrate is maintained in a horizontal orientation during said conveyance of the substrate along the path of substrate travel (see Figure 5).

12. With respect to claim 3, the substrate is a sheet of glass that is on the substrate support during conveyance, and wherein other sheets of glass are also on the substrate support, such sheets of glass being spaced-apart from one another on the substrate support and conveyed in such a spaced-apart configuration (see Figure 5 and abstract).

13. With respect to claim 4, the substrate support comprises a plurality of spaced-apart transport rollers (310), the method comprising rotating at least one of the transport rollers to achieve conveyance of the substrate along the path of substrate travel.

14. With respect to claim 5, all of the upwardly facing processing apparatus of Krisko et al. emit processing materials between adjacent pairs of spaced-apart transport rollers. It would be obvious to have the ion guns do the same.

15. With respect to claims 6-8, Krisko et al. teach that the downward coating apparatus are sputtering apparatus comprising an upper sputtering target (326) positioned above the path of substrate travel, and wherein said operation of the downward coating apparatus comprises establishing a plasma adjacent said upper sputtering target (page 19, rows 1-6).

16. With respect to claim 9, the method further comprises providing an upward coating apparatus, the upward coating apparatus being positioned beneath the path of substrate travel at a location further along the path of substrate travel than the ion gun would be (361), the method comprising operating the upward coating apparatus to coat a bottom major surface of the substrate after said operation of said ion gun has removed any oversprayed coating from the bottom major surface of the substrate.

17. With respect to claim 12, said operation of the upward coating is performed in the final chamber of the coater (see Figure 5 and column 20, rows 1-12).

18. With respect to claims 13 and 14, the bottom major surface of the substrate is coated with a coating having a total optical thickness of less than about 690 angstroms (page 4, rows 23-25) and the top major surface is coated with a coating having a total optical thickness of at least about 1000 angstroms (page 8, row 26 through page 9, row 3).

19. With respect to claims 15-17, the operation of the upward coating apparatus comprises depositing on the bottom major surface of the substrate a photocatalytic surface-effect coating comprising titanium oxide (page 13, row 25 and page 20, rows 1-21).

20. With respect to claim 18-21, Krisko et al. teach that the upward apparatus may comprise a plurality of sputtering apparatus comprising a lower sputtering target (column 20, rows 1-12) positioned beneath the path of substrate travel, and wherein said operation of the upward coating apparatus comprises establishing a plasma adjacent said lower sputtering target. Krisko et al. do not explicitly disclose that the coating can be supplied by other types of commonly known vacuum coating means, however, the courts have ruled that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). It would have been obvious to one of ordinary skill in the art that other types of coating means could be used to form films in the apparatus of Krisko et al. without departure from the spirit of the invention.

21. With respect to claims 39-42 and 45-46, each of the limitations is addressed above in the rejections of similar claims 1-21.

Allowable Subject Matter

22. Claims 10-11 and 43-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to fairly teach or suggest the upward coating is performed after all other coating of the substrate has been performed, or in other words, that the substrate is not conveyed beneath any operating downward coating apparatus, such that marginal portions of coating applied to the bottom major surface will not be concealed by over sprayed coating form any subsequent downward coating apparatus in the coater.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karla Moore
Patent Examiner
Art Unit 1763
9 December 2005